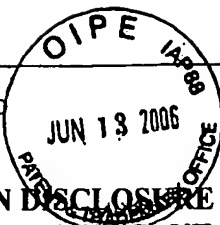


Substitute for form 1449/PTO
(Revised 07/2005)

INFORMATION DISCLOSURE STATEMENT BY APPLICANT

(Use as many sheets as necessary)



Complete if Known

Sheet	1	of	1	Application Number	10/673,438
				Filing Date	September 30, 2003
				First Named Inventor	Rowley
				Group Art Unit	1651
				Examiner Name	Naff, David M.
				Attorney Docket Number	P-5645P1 (035510/296472)

U. S. PATENT DOCUMENTS

Examiner Initials*	Cite No.	Document Number Number - Kind Code (if known)	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages of Relevant Figures Appear
an	1	US-5,766,631	06-1998	Arnold	424/486
an	2	US-5,866,165	02-1999	Liu et al.	424/486
an	3	US-2003/0095993	05-2003	Bentz et al.	424/424
an	4	US-2003/0032203	02-2003	Sabatini et al.	436/518
an	5	US-5,747,027	05-1998	Stern et al.	424/94.62

FOREIGN PATENT DOCUMENTS

Examiner Initials	Cite No.	Foreign Patent Document Country Code - Number Kind Code (if known)	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear	English Language Translation Attached

OTHER DOCUMENTS

Examiner Initials*	Cite No.	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.	English Language Translation Attached
an	6	DOILLON, C.J., et al., "Fibroblast Growth on a Porous Collagen Sponge containing Hyaluronic Acid and Fibronectin," <i>Biomaterials</i> , 1987, pp. 195-200., Vol. 8.	
an	7	HUANG-LEE, L.L.H., et al., "Crosslinked CNBr-Activated Hyaluronan-Collagen Matrices: Effects of Fibroblast Contraction," <i>Matrix Biology</i> , 1994, pp. 147-157, Vol. 14.	
an	8	MIDDELKOOP E., et al., "Adherence, Proliferation and Collagen Turnover by Human Fibroblasts Seeded onto Different Types of Collagen Sponges," <i>Cell Tissue Res.</i> , 1995, pp. 447-453, Vol. 280.	

Examiner Signature		Date Considered	9/14/04
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INFORMATION DISCLOSURE STATEMENT BY APPLICANT

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Sheet 1

of 2

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Application Number	10/673.438
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Filing Date	9-30-2003
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First Named Inventor	Rowley et al.
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Art Unit	1651
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Attorney Docket Number	P-5645P1
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U. S. PATENT DOCUMENTS

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		Country Code ³ Number ⁴ Kind Code ⁵ (if known)	MM-DD-YYYY			
		WO 2004/031371 A2	04-15-2004	Becton, Dickinson and Co.		
		FR 2 809 313 A1	05-25-2001	Coletica Societe anonyne		
						
						
						
						

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Application Number 10/673,438

Filing Date 9-30-2003

First Named Inventor Rowley et al.




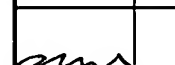
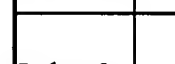
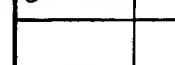
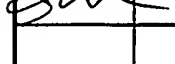
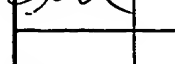
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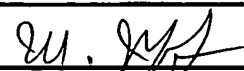
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Sheet 2 of 2

Attorney Docket Number P-5645P1

NON PATENT LITERATURE DOCUMENTS

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		KOWALCZYNSKA, Adsorption characteristics of human plasma fibronectin in relationship to cell adhesion, Journal of Biomedical Materials Res. 61, no. 2, 2002, pp. 260-269	
		CHEN, Hybrid Biomaterials for Tissue Engineering: A Preparative Method for PLA or PLGA- Collagen Hybrid Sponges, Advanced Materials, 12, no. 6, 2000, pp. 455-457	
		WOO, Enhance. of Fibronectin- and Vitronectin-Adsorption to Polymer/Hydroxyapatite Scaffolds Suppresses the Apoptosis of Osteoblasts, J. of Bone and Min. Res., 17, 1, 2002,	
		NOISET, Fibronectin Adsorption or/and Covalent Grafting on Chemically Modified Peek Film Surfaces, J. Biomater. Sci. Polymer Edn., 10, no. 6, pp. 657-677, 1999	
		CIVERCHIA-PEREZ, Use of Collagen Hydroxyethylmethacrylate Hydrogels for Cell Growth, Prac. Natl. Acad. Sci. USA, 77, no. 4, 1980, pp. 2064-68	
		LEE, Preparation and Characteristics of Hybrid Scaffolds composed of beta-chitin and Collagen, Biomaterials 25, no. 12, 2004, pp. 2309-2317	
		CARBONETTO, Nerve Fiber Growth on Defined Hydro Gel Substrates, Science 216, no. 4548, 1982, pp. 897-899	
		International Search Report, PC/US2004/027865, Mailed April 4, 2005.	

Examiner
Signature Date
Considered

9/14/06

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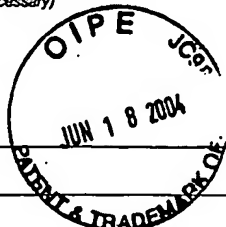
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**INFORMATION DISCLOSURE
STATEMENT BY APPLICANT**

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Complete if Known

Application Number	10/673,438
Filing Date	September 30, 2003
First Named Inventor	Rowley, Jon
Group Art Unit	1651
Examiner Name	Unknown

Sheet 1 of 1

Attorney Docket No: 0709.011.0003

US PATENT DOCUMENTS

Examiner Initial *	USP Document Number	Publication Date	Name of Patentee or Applicant of cited Document	Class	Subclass	Filing Date If Appropriate
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FOREIGN PATENT DOCUMENTS

Examiner Initials*	Foreign Document No	Publication Date	Name of Patentee or Applicant of cited Document	Class	Subclass	T ²
<i>an</i>	WO-WO 01/49824 A	07/12/2001	<i>Domschke et al</i>	—	—	
<i>an</i>	WO-WO 97/17038 A	05/15/1997	<i>Vacanti</i>	—	—	
<i>an</i>	WO-WO00/61668 A	10/19/2000	<i>Elseft et al</i>	—	—	
<i>an</i>	WO-WO01/66695	09/13/2001	<i>Gruskin et al</i>	—	—	

OTHER DOCUMENTS -- NON PATENT LITERATURE DOCUMENTS

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<i>an</i>		PCT International Search Report for International Application No. PCT/US 03/30649	

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Substitute Disclosure Statement Form (PTO-1449)

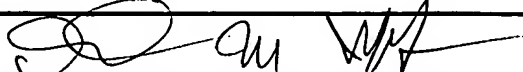
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		Application Number	10/673,438
		Filing Date	09/30/2003
		First Named Inventor	HEIDARAN et al.
		Art Unit	
		Examiner Name	
Sheet	2	of	3
		Attorney Docket Number	P-5645P1

NON PATENT LITERATURE DOCUMENTS			
Examiner Initials*	Cite No. ¹	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.	T ²
an		CHUNG et al, Biomaterials (2003) 23:2827-2834.	
an		DRAGET et al., Int J. Biol. Macromolecules (1997) 21:47-55.	
an		KIM et al. Fibers and Polymers (2001) 2:64-70.	
an		KOBAYASHI et al., Biomaterials (1991) 12:747-51.	
an		KOBAYASHI et al., Current Eye Research (1991) 10:899-908.	
an		MATSUDA et al., ASAIO J, (1993) 39:M327-31.	
an		MATSUDA et al., ASAIO J, (1992) 38:M154-7.	
an		MOGHADDAM et al., J. Polym. Sci. Part A: Polym. Chem. (1993) 31:1589-97.	
an		MOGHADDAM et al., ASAIO Trans, (1991) 37:M437-8.	
an		PARK et al., Nature Biotechnology (2002) 20:1111-17.	

Examiner Signature		Date Considered	9/14/04
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		Application Number	10/673,438
		Filing Date	09/30/2003
		First Named Inventor	HEIDARAN et al.
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		Examiner Name	
Sheet	3	of	3
		Attorney Docket Number	P-5645P1

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an		PETRONIS et al., Journal of Materials Science: Materials in Medicine (2001) 12:523-28.	
an		PRESTWICH et al., J. Controlled Release (1998) 53:93-103.	
an		SHAPIRO et al., Biomaterials (1997) 18:583-590.	
an		SHEA et al., Nature Biotechnology (1999) 17:551-54.	
an		SMIDSRD et al., Trends in Biotech., (1990) 8:71-78.	
an		ZHU et al., Biomaterials, (2002) 23:3141-3148.	
an		ZMORA et al., Biomaterials (2002) 23:4087-4094.	

Examiner Signature		Date Considered	9/14/06
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**INFORMATION DISCLOSURE
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Sheet 1 of 7

Complete If Known

Application Number	10/673,438
Filing Date	September 30, 2003
First Named Inventor	Jon Rowley et al.
Art Unit	1651
Examiner Name	Unassigned
Attorney Docket Number	020187.239PTUS

NON PATENT LITERATURE DOCUMENTS

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<i>an</i>	1	ALSBERG E, et al., "Cell-interactive Alginate Hydrogels for Bone Tissue Engineering," J. Dent. Res. 80(11):2025-9. November 2001	
<i>an</i>	2	ALSBERG E, et al., "Engineering Growing Tissues", Proc. Natl. Acad. Sci. U. S. A. 99(19):12025-30. September 2002.	
<i>an</i>	3	BALGUDE A, et al., "Agarose Gel Stiffness Determines Rate of DRG Neurite Extension in 3D Cultures," Biomaterials. 22(10):1077-84(2001).	
<i>an</i>	4	BELLAMKONDA R, et al., "Hydrogel-based Three-Dimensional Matrix for Neural Cells," J. Biomed. Mater. Res. 29(5):663-71(1995).	
<i>an</i>	5	BHATIA S et al., "Tissue Engineering at the Micro-scale," Biomed. Microdevices. 2(2):131-44(March 1999).	
<i>an</i>	6	BOTTARO D, et al., "Molecular Signaling in Bioengineered Tissue Microenvironments," Ann. N.Y. Acad. Sci. 961:143-53(2002).	
<i>an</i>	7	BRYANT S, et al., "Controlling the Spatial Distribution of ECM Components in Degradable PEG Hydrogels for Tissue Engineering Cartilage," J. Biomed. Mater. Res. 64A(1):70-9(January 2003).	
<i>an</i>	8	BLUNK T, et al., "Differential Effects of Growth Factors on Tissue-Engineered Cartilage," Tissue Eng. 8(1): 73-84(2002).	
<i>an</i>	9	CHANG S, et al., "Injection Molding of Chondrocyte/Alginate Constructs in the Shape of Facial Implants," J. of Biomed. Mater. Res. 55(4): 503-11(June 2001).	
<i>an</i>	10	CHARLES K, et al., "Storage and Microencapsulation of Islets for Transplantation," Cell Transplant. 9(1):33-8(January/February 2000).	
<i>an</i>	11	CUKIERMAN E, et al., "Cell Interactions with Three-Dimensional Matrices," Curr. Opin. Cell Biol. 14:633-39(2002).	
<i>an</i>	12	DAGALAKIS N, et al., "Design of an Artificial Skin. Part III. Control of Pore Structure," J Biomed. Mater. Res. 14(4):511-28(July 1980).	
<i>an</i>	13	DAR A, et al. "Optimization of Cardiac Cell Seeding and Distribution in 3D Porous Alginate Scaffolds," Biotechnol. Bioeng. 80(3):305-12(November 2002).	

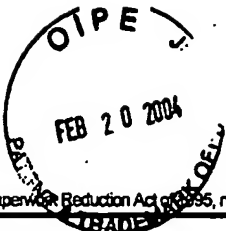
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		Application Number	10/673,438
		Filing Date	September 30, 2003
		First Named Inventor	Jon Rowley et al.
		Art Unit	1651
		Examiner Name	Unassigned
		Attorney Docket Number	020187.0239PTUS

NON PATENT LITERATURE DOCUMENTS			
Examiner Initials *	Cite No. ¹	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.	T ²
	14	DIMILLA P, et al., "Maximal Migration of Human Smooth Muscle Cells on Fibronectin and Type IV Collagen Occurs at an Intermediate Attachment Strength," J. Cell. Biol. 122(3):729-37(August 1993).	
	15	DRUMHELLER P, et al., "Polymer Networks with Grafted Cell Adhesion Peptides for Highly Biospecific Cell Adhesive Substrates," Anal. Biochem. 222:380-88(1994).	
	16	EISELT P, et al., "Porous Carriers for Biomedical Applications based on Alginate Hydrogels," Biomaterials. 21(19):1921-7(2000).	
	17	ELISSEEFF J, et al., "Controlled-Release of IGF-I and TGF- β 1 in a Photopolymerizing Hydrogel for Cartilage Tissue Engineering," J. Orthop. Res. 19(6):1098-104(2001).	
	18	GARFINKEL M, et al., "Optimization of the Microencapsulated Islet for Transplantation," J. Surg. Res. 76(1):7-10(1998).	
	19	GRIFFITH L, et al., "Tissue Engineering--Current Challenges and Expanding Opportunities," Science. 295(5557):1009-14(February 2002).	
	20	GLICKLIS R, et al., "Hepatocyte Behavior within Three-dimensional Porous Alginate Scaffolds," Biotechnol. Bioeng. 67(3):344-53(February 2000).	
	21	HALBERSTADT C, et al., "A Hydrogel Material for Plastic and Reconstructive Applications Injected into the Subcutaneous Space of a Sheep," Tissue Eng. 8(2):309-19(2002).	
	22	HAY E., Cell Biology of Extracellular Matrix, 2nd edition, Plenum Press, 1991.	
	23	HERN D, et al., "Incorporation of Adhesion Peptides into Nonadhesive Hydrogels Useful for Tissue Resurfacing," J. Biomed. Mater. Res. 39(2):266-76(1998).	
	24	HOBBS H, et al., "Prevention of Morphological Changes in Alginate Microcapsules for Islet Xenotransplantation," J. Investig. Med. 49(6):572-5(November 2001).	
Examiner Signature		Date Considered	9/14/06

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Sheet 3 of 7

Complete if Known

Application Number	10/673,438
Filing Date	September 30, 2003
First Named Inventor	Jon Rowley et al.
Art Unit	1651
Examiner Name	Unassigned
Attorney Docket Number	020187.0239PTUS

NON PATENT LITERATURE DOCUMENTS

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an	25	HUBBELL J., "Biomaterials in Tissue Engineering," Biotechnology (N.Y.) 13(6):565-76(June 1995).	
an	26	HUBBELL J, et al., "Surface-Grafted Cell-Binding Peptides in Tissue Engineering of the Vascular Graft," Ann N.Y. Acad. Sci. 665:253-8(October 1992).	
an	27	INGBER D., "Control of Capillary Growth and Differentiation by Extracellular Matrix. Use of a Tensegrity (Tensional Integrity) Mechanism for Signal Processing," Chest 99(3 Suppl):34S-40S(1991).	
an	28	INGBER D, et al., "Mechanochemical Switching Between Growth and Differentiation During Fibroblast Growth Factor-Stimulated Angiogenesis in vitro: Role of Extracellular Matrix," J. Cell. Biol. 109(1):317-30(July 1989).	
an	29	ITO Y, et al., "Enhancement of Cell Growth on Growth Factor-Immobilized Polymer Film," Biomaterials 12(5):449-53(July 1991).	
an	30	ITO Y, et al., "Enhancement of the Mitogenic Effect by Artificial Juxtacrine Stimulation using Immobilized EGF," J. Biochem. (Tokyo), 121(3):514-20(March 1997).	
an	31	KENDALL W, et al., "Effect of Bead Swelling on the Durability of Polylysine Alginate Microcapsules," Curr. Surg. 57(6):636-37(November/December 2000).	
an	32	KIM B, et al., "Development of Biocompatible Synthetic Extracellular Matrices for Tissue Engineering," Trends in Biotechnology 16(5):224-30(May 1998).	
an	33	KIM B, et al., "Engineering Smooth Muscle Tissue with a Predefined Structure," J. of Biomed. Mater. Res. 41(2):322-32(August 1998).	
an	34	KIM B, et al., "Scaffolds for Engineering Smooth Muscle Under Cyclic Mechanical Strain Conditions," Journal of Biomechanical Engineering 122(3):210-15(June 2000).	
an	35	KIM B, et al., "Cyclic Mechanical Strain Regulates the Development of Engineered Smooth Muscle Tissue," Nature Biotechnology 17(10):979-83(October 1999).	
an	36	KIM S, et al., "Three-Dimensional Porous Collagen/Chitosan Complex Sponge for Tissue Engineering," Fibers and Polymers, Vol. 2, No. 2, pages 64-70(2001).	

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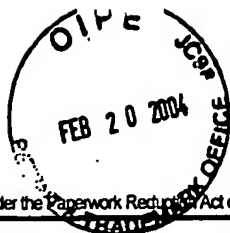
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		Filing Date	September 30, 2003		
		First Named Inventor	Jon Rowley et al.		
		Art Unit	1651		
		Examiner Name	Unassigned		
Sheet	4	of	7	Attorney Docket Number	020187.0239PTUS

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sm	37	KIM W, et al., "Cartilage Engineered in Predetermined Shapes Employing Cell Transplantation on Synthetic Biodegradable Polymers," Plastic and Reconstructive Surgery 94(2):233-37(August 1994).		
sm	38	EHRENFREUND-KLEINMAN T, et al., "Synthesis and Biodegradation of Arabinogalactan Sponges Prepared by Reductive Amination," Biomaterials 23:4621-31(2002).		
sm	39	KOBAYASHI H, et al., "Corneal Cell Adhesion and Proliferation on Hydrogel Sheets Bound with Cell-Adhesive Proteins," Current Eye Research, Vol. 10, No. 10, 899-908(October 1991).		
sm	40	KOBAYASHI H, et al., "Covalent Immobilization of Proteins on to the Surface of Poly (Vinyl Alcohol) Hydrogel," Biomaterials Vol. 12, pages 747-751(October 1991).		
sm	41	KUO C, et al., "Ionically Crosslinked Alginate Hydrogels as Scaffolds for Tissue Engineering: part 1. Structure, Gelation Rate and Mechanical Properties," Biomaterials 22(6):511-21(2001).		
sm	42	KUHL P, et al., "Tethered Epidermal Growth Factor as a Paradigm for Growth Factor-Induced Stimulation from the Solid Phase," Nat. Med. 2(9):1022-7(September 1996).		
sm	43	LANGER R, et al., "Tissue Engineering," Science 260(5110):920-6(May 1993).		
sm	44	LEE K, et al., "Controlling Mechanical and Swelling Properties of Alginate Hydrogels Independently by Cross-Linker Type and Cross-Linking Density," Macromolecules 33:4291-4294(2000).		
sm	45	LIM F, et al., "Microencapsulation of Living Cells and Tissues," J. Pharm. Sci. 70(4):351-4(April 1981).		
sm	46	LOEBSACK A, et al., "In vivo Characterization of a Porous Hydrogel Material for Use as a Tissue Bulking Agent," J. Biomed. Mater. Res. 57(4):575-81(December 2001).		
sm	47	MAHONEY M et al., "Transplantation of Brain Cells Assembled Around A Programmable Synthetic Microenvironment," Nat. Biotechnol. 19(10):934-9(October 2001).		
sm	48	MANN B, et al., "Cell Adhesion Peptides Alter Smooth Muscle Cell Adhesion, Proliferation, Migration, and Matrix Protein Synthesis on Modified Surfaces and in Polymer Scaffolds," J. Biomed. Mater. Res. 60(1):86-93(April 2002).		
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Sheet 5 of 7

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am	49	MANN B, et al., "Smooth Muscle Cell Growth in Photopolymerized Hydrogels with Cell Adhesive and Proteolytically Degradable Domains: Synthetic ECM Analogs for Tissue Engineering," Biomaterials 22(22):3045-51(2001).	
am	50	MANN B, et al., "Tethered-TGF- β Increases Extracellular Matrix Production of Vascular Smooth Muscle Cells," Biomaterials 22(5):439-44(2001).	
am	51	MARLER J, et al., "Soft-Tissue Augmentation with Injectable Alginate and Syngeneic Fibroblasts," Plast. Reconstr. Surg. 105(6):2049-58(May 2000).	
am	52	MARTIN I, et al., "Enhanced Cartilage Tissue Engineering by Sequential Exposure of Chondrocytes to FGF-2 during 2D Expansion and BMP-2 during 3D Cultivation," J. Cell. Biochem. 83(1):121-8(2001).	
am	53	MASSIA S, et al., "An RGD Spacing of 440 m is Sufficient for Integrin Alpha-V Beta-3 Mediated Fibroblast Spreading and 140 m for Focal Contact and Stress Fiber Formation," J. Cell. Biol. 114:1089-1100(September 1991).	
am	54	MASSIA S, et al., "Covalent Surface Immobilization of Arg-Gly-Asp- and Tyr-Ile-Gly-Ser-Arg- Containing Peptides to Obtain Well-Defined Cell-Adhesive Substrates," Anal. Biochem. 187:292-301(June 1990).	
am	55	MASSIA S et al., "Human Endothelial Cell Interactions with Surface-Coupled Adhesion Peptides on a Nonadhesive Glass Substrate and Two Polymeric," Biomaterials. J. Biomed. Mater. Res. 25(2):223-42(February 1991).	
am	56	MOONEY D, et al., "Extracellular Matrix Controls Tubulin Monomer Levels in Hepatocytes by Regulating Protein Turnover," Mol. Biol. Cell. 5(12):1281-8(December 1994).	
am	57	MOONEY D, et al., "Switching From Differentiation to Growth in Hepatocytes: Control by Extracellular Matrix," J. Cell. Physiol. 151(3):497-505(June 1992).	
am	58	MOSAHEBI A, et al., "A Novel Use of Alginate Hydrogel as Schwann Cell Matrix," Tissue Eng. 7(5):525-34(2001).	
am	59	NIKOLOVSKI J, et al., "Smooth Muscle Cell Adhesion to Tissue Engineering Scaffolds," Biomaterials 21(20):2025-32(2000).	
am	60	NOR J, et al., "Engineering And Characterization of Functional Human Microvessels in Immunodeficient Mice," Lab Invest. 81(4):453-63(April 2001).	
am	61	NUTTELMAN C, et al., "Attachment of Fibronectin to Poly(Vinyl Alcohol) Hydrogels Promotes NIH3T3 Cell Adhesion, Proliferation, and Migration," J. Biomed. Mater. Res. 57(2):217-23(November 2001).	

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am	62	PALECEK S, et al., "Integrin-Ligand Binding Properties Govern Cell Migration Speed Through Cell-Substratum Adhesiveness," Nature 385(6616):537-40(February 1997).	
am	63	PEI, M et al., "Growth Factors for Sequential Cellular De- and Re-differentiation in Tissue Engineering," Biochem. Biophys. Res. Commun. 294(1): 149-54(2002).	
am	64	PEPPAS N, "Hydrogels in Medicine and Pharmacy," Vol. 1, CRC Press, 1986.	
am	65	PETERS M, et al., "Engineering Vascular Networks in Porous Polymer Matrices," J. Biomed. Mater. Res. 60(4):668-78(June 2002).	
am	66	PETRONIS S, et al., "Microstructuring Ceramic Scaffolds for Hepatocyte Cell Culture," Journal of Materials Science: Materials in Medicine 12(6):523-28(June 2001).	
am	67	PRESTWICH G, et al., "Controlled Chemical Modification of Hyaluronic Acid: Synthesis, Applications, and Biodegradation of Hydrazide Derivatives," J. Controlled Release. 53, pages 93-103(1998).	
am	68	RICHARDSON T, et al., "Polymeric System for Dual Growth Factor Delivery," Nat. Biotechnol. 19(11):1029-34(November 2001).	
am	69	PUELACHER W, et al., "Design of Nasoseptal Cartilage Replacements Synthesized from Biodegradable Polymers and Chondrocytes," Biomaterials 15(10):774-78(1994).	
am	70	RATNER B., "The Engineering Of Biomaterials Exhibiting Recognition and Specificity," J Mol. Recognit. 9(5-6):617-25(1996).	
am	71	ROWLEY J, et al., "Alginate Hydrogels as Synthetic Extracellular Matrix Materials," Biomaterials. 20(1):45-53(1999).	
am	72	ROWLEY J, et al. Covalently Modified Alginate. Abstracts of Papers of The American Chemical Society. 213:390-COLL(1997).	
am	73	ROWLEY J, et al., "Alginate Type and RGD Density Control Myoblast Phenotype," J. Biomed. Mater. Res. 60(2):217-23(May 2002).	
am	74	ROWLEY J, et al., "Biomaterials to Spatially Control Cell Fate," Adv. Mater. 14(12):886-89(2002).	
am	75	ROWLEY J., "Controlling Alginate Hydrogel Mechanics," Ph.D. Thesis, Univ. of Michigan. pages 71-109(2001).	

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am	77	SHAPIRO L, et al., "Novel Alginate Sponges for Cell Culture and Transplantation," Biomaterials 18(8):583-90(1997).	
am	78	SHEA, et al., "DNA Delivery from Polymer Matrices for Tissue Engineering," Nature Biotechnology 17: 551-554 (June 1999).	
am	79	SMENTANA K., "Cell Biology of Hydrogels," Biomaterials 14:1046-50(1993).	
am	80	STITT D, et al., "Determination of Growth Rate of Microorganisms in Broth from Oxygen-Sensitive Fluorescence Plate Reader Measurements," Biotechniques 32(3):684- 689(March 2002).	
am	81	TIMMINS M, et al., "Monitoring the Oxygen Consumption Rates of Cells in Culture," BD The Cell/Line 12(1):8-11(2002).	
am	82	VUKICEVIC S, et al., "Differentiation of Canalicular Cell Processes in Bone Cells by Basement Membrane Matrix Components: Regulation by Discrete Domains of Laminin," Cell, 63:437-45(October 1990).	
am	83	VUNJAK-NOVAKOVIC G, et al., "Bioreactor Cultivation Conditions Modulate the Composition and Mechanical Properties of Tissue-Engineered Cartilage," J. Orthop. Res. 17(1):130-8(1999).	
am	84	WAHLGREN M, et al., "Protein Adsorption to Solid Surfaces," Trends Biotechnol. 9(6):201-8(June 1991).	
am	85	WANG N, et al., "Mechanotransduction Across the Cell Surface and Through the Cytoskeleton," Science 260(5111):1124-7(1993).	
am	86	WICHTERLE O, et al., "Hydrophilic Gels for Biological Use," Nature 185:117-18(January 1960).	
am	87	WODNICKA M, et al., "Novel Fluorescent Technology Platform for High Throughput Cytotoxicity and Proliferation Assays," J. Biomol. Screen, 5(3):141-52(June 2000).	
am	88	ZHU H, et al., "Surface Engineering of Poly(DL-Lactic Acid) by Entrapment of Alginate-Amino Acid Derivatives for Promotion of Chondrogenesis," Biomaterials. 23:3141-48(2002).	
am	89	ZMORA S, et al., "Tailoring the Pore Architecture in 3-D Alginate Scaffolds by Controlling the Freezing Regime During Fabrication," Biomaterials 23:4087-94(2002).	

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